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said compiler including means for pausing when the compiler reaches said designated pause location,

means advancing said pause location as additional portions of the source program are input, and

means to return control of the central processing unit to the compiler upon completion of either the entry of at least one input character or the execution of an editing command.

REMARKS

The claims have been rewritten so as to be distinguished from those in applicant's copending application Serial No. 425,612. The present claims include limitations to the type-ahead buffer scheme of the IBM personal computer as utilized in the embodiment disclosed in the appendix.

The numerous grounds of rejection of the claims because of a failure to claim details "exactly" are noted. Applicant is unaware of any authority that requires that structure or function be recited "exactly". The examiner is respectfully requested to cite such authority. It is applicant's understanding that an inventor is permitted to claim his invention as broadly as permitted by the prior art.

The new claims have been been drafted in an effort to obviate those grounds of alleged indefiniteness which applicant believes he understands.

It is respectfully submitted that the examiner's statements on Page 16 of the Action are erroneous. That the structures of the Z80 and IBM personal computer are "not the same" is irrelevant, and so too is the fact that the PL/O and Pascal languages are "not the same". It is well settled that a plurality of species of the same invention may be disclosed in a single application. The "best mode" requirement is met if one of the disclosed species is deemed best by the applicant.

It is respectfully submitted that the examiner's requirements in Paragraphs 17(b) and 17(f) are improper. Applicant is not required to disclose that which is so well-known as to constitute a de facto standard in the industry.

The examiner's statements in Paragraphs 17(g) to 17(i) inclusive are not understood. Clarification is respectfully requested.

The requirement of Paragraph 17(m) is not understood. Applicant has disclosed a complete embodiment of the invention in the appendix. The Wirth compiler is a widely distributed classic publication in computer science. The differences between Wirth's compiler and applicant's disclosed implementation would be readily apparent to anyone having ordinary skill in the art. Furthermore, the examiner apparently fails to understand that the present invention is not dependent upon any particular compiler and may be implemented in the same way with any conventional compiler.

The examiner's objection to the specification as stated in Paragraph 17(e) is not understood. Applicant is unaware of any authority which requires the claims to utilize the specific

terminology of the Summary. It would appear axiomatic that the claims are properly couched in broader language than the language employed in the specification to disclose in detail a particular embodiment.

It is respectfully submitted that the rejection of the claims on Benson et al. and Spangler et al., as set forth in Paragraphs 21 and 22 of the Office Action of September 19, 1985, contains the following errors:

First, the different operations of execution and compilation appear to be confused. That is, the interrupted real-time execution of Benson et al. is confused with the interrupted real-time compilation of the subject invention.

Second, applicant's real-time compilation concurrent with the entry of source code is apparently confused with the "line-by-line" incremental compiler scheme of the prior art utilized in the Spangler reference.

Third, there is an apparent lack of recognition that the Benson et al. publication contains merely "proposals" of results to be achieved in a proposed new language, and that the publication discloses neither hardware nor software for achieving the proposed results.

Fourth, there is an apparent misunderstanding of the meaning and concepts of concurrency and concurrent processes as used in computer science. That is, concurrent processes are erroneously thought to be only those that have their machine instructions executing "at the same time."

Although the term "real-time" is used in both the subject application and the Benson et al. proposals, these two uses of the term have entirely different contexts and meanings. In the Benson et al. proposals the term "real-time" refers to the execution of the object code. In the subject application the term "real-time" refers to the compilation of the program source code.

That is, the Benson et al. proposals contemplate conventional compilation of programs which execute in real time, whereas the subject application is directed to real-time compilation of conventional programs which do not necessarily execute in real time.

More specifically, in the subject application "real-time compilation" refers to compilation (translation) concurrent with the entry of the source code at the keyboard. In the Benson et al. proposals "real-time" refers to the execution (running) of the program concurrently with the operation of the mechanical or chemical process being controlled by the program.

In order to eliminate this source of confusion the new claims have been rewritten to avoid recitation of the term "real-time".

It is therefore respectfully submitted that neither Benson et al. nor Spangler et al. contains a disclosure or suggestion of compilation concurrent with the entry of source code, as recited in the new claims.

It is further respectfully submitted that neither of these

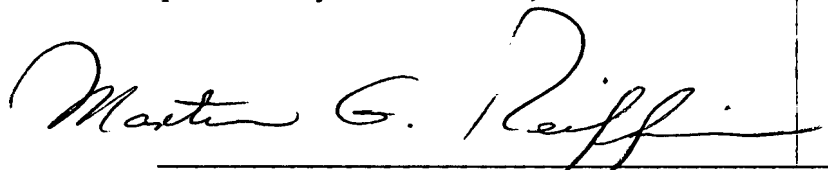
references discloses or suggests the interruption of compilation by the striking of a key at the keyboard, as recited in the more limited of the new claims.

In order to explain the above points authoritatively and in more detail, a supplement to the Wadsworth affidavit is being prepared and will be filed shortly in applicant's copending application Serial No. 425,612 and a copy of same will be filed in the present application.

If the examiner adheres to the rejection based upon the Benson and Spangler references he is respectfully requested to state fully his position with respect to each of the allegations of the forthcoming Wadsworth supplemental affidavit so that applicant's brief on appeal may be directed to the examiner's contentions.

Favorable reconsideration is respectfully solicited.

Respectfully submitted,

A handwritten signature in cursive script, reading "Martin G. Reiffin". The signature is written in dark ink and is positioned above a horizontal line.

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Martin G. Reiffin,
Applicant
9262 Royal Palm Blvd.
Garden Grove, CA 92641
Telephone: (714) 530-2560